

ABSTRACT OF THE DISCLOSURE

A medical device, such as a respiratory treatment device, having an active acoustic noise cancellation system. In one embodiment, the noise minimizing system includes at least one detector detecting characteristics of acoustic noise of a blower assembly and at least one speaker creating a cancellation frequency in the form of acoustic waves that at least partially cancels acoustic waves generated by the blower assembly. In another embodiment, the noise minimizing system includes a mechanical vibration generating element that creates a cancellation frequency in the form of a mechanical vibration that at least partially cancels vibrations of the blower assembly. This is accomplished, for example, by dithering a flow control valve at a frequency corresponding to an operating frequency of the blower assembly. Each embodiment can be used alone or in combination.